VIRGINIA WILDLIFE

APRIL 2003 TWO DOLLARS

Director's Column

William L. Woodfin, Jr

Hello spring! Good-bye winter!! After one of the more bitter winters in recent memory and a really bad case of cabin fever, I am ready to tune up my turkey call and talk turkey. Let's hope there's a big gobbler out there as eager to meet me as I am to meet him.

Spring gobbler season opens on April 12 and runs through May 17 this year. Hunters are reminded that legal hunting hours for spring gobbler season are one-half hour before sunrise until noon each day. Last year, we had a record harvest of more than 18,000 birds. But let's face it, the real thrill is in hearing that thundering gobble at sunrise and seeing one of those big birds strutting its stuff. Enthusiastic hunters will tell you that harvesting a turkey is not nearly as important as the total experience of being able to call in and outwit one of these magnificent game birds. Working these birds with their keen eyesight and acute hearing is a challenge to any hunter. Seasoned turkey hunters will tell you "if they could smell, we'd never have a chance."

From the Blue Ridge Mountains to the Eastern Shore, wild turkey populations are flourishing. Thanks to years of solid restoration work—much of which could not have taken place without the dedicated professionals of our Department and the outdoor organizations like the National Wild Turkey Federation—turkey hunting opportunities abound. If you're looking for a place to hunt, why not start with one of the Department's more than 20 wildlife management areas that are open for turkey hunting? Or, you may find that taking the time to extend a helping hand to a private landowner, building a relationship with that landowner, and sharing in the harvest may lead to some excellent hunting opportunities.

Dressing right is the key to both safe and successful turkey hunting. While sitting still is most important, full camouflage helps hunters blend into the surroundings and elude the turkey's watchful eyes. Those aren't the only eyes that could be fooled. Other hunters could mistake a hunter in full camouflage for a wild turkey. Keep in mind, when you hear a turkey call or see movement, it could very well be another hunter. Assume you are not alone in the woods and act accordingly. Your firearm, clothing, and turkey calls are all important equipment, but thinking safety is the best tool a hunter can use.

Ultimately, every hunter is responsible for identifying his target and beyond before pulling the trigger. Most hunting fatalities are the result of the hunter not making sure of his or her target, or shooting at sound or movement. For those who have taken a hunter education course, these words will sound familiar.

Probably the best tip that I can give you during this spring turkey hunting season is to take advantage of our free hunter education courses. If you have already taken the course yourself, then take a youngster, a family member, or a friend to a class. You'll brush up on your skills and introduce someone else to this rich tradition and thrilling and unique outdoor experience. You might be surprised at what you'll learn.

Mission Statement

To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth; to provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation; to promote safety for persons and property in connection with boating, hunting and fishing.

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About the cover: Last year hunters in Virginia harvested a record 18,296 birds during the spring gobbler season. ©Maslowski Photo

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VOLUME 64 NUMBER 4

CALLMAKERS
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A Call From

Rare calls among a custom collection features the work of a former Dinwiddie slave who created his own "Songs of the South."

by Ken Perrotte

Bruce Elliott has a fondness for everything turkey—wild turkey that is. Elliott, a colonel in the U.S Army and a Fredericksburg resident, has trekked much of North America questing for the adrenaline rush delivered when a majestic tom turkey gobbles thunderously to the call.

The turkey bug bit Elliott as a boy in the 1960s. His father was an avid hunter and outdoorsman who instilled his son with a love for the outdoors. They became charter members of the Fredericksburg Chapter of the National Wild Turkey Federation, founded in 1973, and soon began meeting kindred souls at banquets and conventions. Elliott talks with reverence about meeting the craftsmen who shaped custom turkey calls.

His passion for collecting custom calls began in 1975, as part of a quest for, as he calls it, "the Holy Grail or the Excalibur of turkey calls."

"I wanted something that would cause a bird to gobble every time I stroked it. I found out that call doesn't exist.

"It's like playing a Stradivarius violin—it's up to the person playing it to bring out the magic. With turkey calls, the magic comes when the caller learns how and when to use the call," he explained.

Col. Bruce Elliott (below) is an avid turkey hunter and collector of old turkey calls. Of all the calls in his collection none match the uniqueness more than those made by Jeremiah Stevens (above), a former slave from Dinwiddie County.

©Ken Perrotte

Elliott clearly knows how to bring out the magic in his calls. He has taken more than 300 wild turkeys and all the North American sub-species. Further, most of the birds were hunted on public lands.

His collection includes prized calls made by retired military members, including Neil Cost, a retired Army noncommissioned officer who passed away last year, and retired Air Force Chief Master Sgt. L.B. "Pap" Nelson, of Navoo, Alabama.

"Cost was the only real custom call maker back in the 1970's," Elliott said, gingerly removing the call from its protective case. "He's the person who coined the term 'paddle call.' One of his calls brought $11,000 at auction fairly recently."

The Past

The Nelson call is a slate call set in a double box, wooden sound chamber. Elliott scrawls the striker over the slate and evokes the soft purrs of a hen turkey still roosting in a tree.

Jeremiah Stevens

Elliott's collection includes hundreds of custom calls, but he counts those made by a former slave, Jeremiah "Jerry" Stevens, as among the most unique. Stevens spent much of his life in Dinwiddie County. Most of the calls that survived him were of the scratch-type "gunstock" design; a design Elliott says dates to the 1700s.

"People would sand off a little spot on the stock of their gun and use the call against the gun. It was a very popular call here in the East and especially in Virginia," Elliott said.

Robert "Rock" Spiers of Dinwiddie grew up hearing stories about Jerry Stevens, and he inherited much of his memorabilia. Spiers' connection with the Jerry Stevens

Jeremiah Stevens (pictured on the left) attended the 1904 National Motor-Boat and Sportsman's Show in New York City, where he displayed his turkey calls and shared his knowledge and love of hunting while working on the Dinwiddie farm.

©Ken Perrotte

story opened when his great-grandfather Marshall Ambler Moncure married his great-grandmother Elizabeth Imogene Wynn of Raceland Plantation in Dinwiddie.

His great-grandfather employed Stevens as a farm hand for decades after the Civil War and, based on the stories that were passed down, Spiers believes Stevens was born in either Mississippi or Louisiana. His mother was a house servant to a man with the last name of Glasscock.

"Jerry and Glasscock's son were raised together and became good friends—he looked at young Mr. Glasscock almost like a brother. When the Civil War began and the son went off to fight, Jerry went along as his body servant," Spiers began.

"Somehow, they got separated at Gettysburg. Jerry stole a mule in Pennsylvania and made his way to Baltimore where he got another mule and headed south toward Petersburg, where the siege was under way," he continued.

"His friend, Mr. Glasscock, was killed at the battle of the crater. Jerry Stevens made his casket by hand and buried him there in Petersburg. After that, there were stories of Jerry taking up with the 9th Virginia Cavalry. There were accounts of him riding a mule and carrying a shotgun at the battle of Reams Station," he said.

While Stevens began working as a farmhand, he soon began applying his talents to outdoor pursuits.

"He was a great hunter and fisherman, and he would run deer, possum and coon hunting trips from the plantation. He also cured rabbit's feet and made little trinkets out of them. And, he made his turkey calls," Spiers said.

At the turn of the 19th and 20th

©Ralph Hensley

The wild turkey is found throughout Virginia and is one of the most challenging and rewarding of game species. This year's spring turkey hunting season opens April 12th and runs through May 17th.

centuries, New York City's National Sportsman's Show was the premier outdoor show in America. Old newspaper accounts reveal it wasn't unlike many modern outdoor and boat shows. People gather to talk about adventures, hawk wares and socialize with kindred souls.

Spiers' great-grandfather was the show's Virginia representative. Jerry Stevens accompanied him and he apparently became somewhat of a celebrity with his calls and hunting expertise. Mr. Spiers still has a story from the New York Times telling how Stevens befriended a former United States' president (unnamed in the story) and went with him to help pick out a hunting rifle for the president's son.

While today's calls are made from fine pieces of wood such as cherry, chestnut, mahogany, walnut or other fine selections, Jerry Stevens' calls appear to be made from whatever scrap of wood he could get his hand on at the time. Where today's calls are finely machined and glued for precise fit, Stevens' calls were cobbled together using tiny wire brads. One is crafted from an old patent medicine box. Some of the healing claims and exotic ingredients are still printed on the call. Another call is made from pieces of a "Have-a-Tampa" cigar box.

©Ken Perrotte

"Clearly," Elliott said, "this man was frugal and self-sufficient."

Spiers said Stevens' later years were filled with a mix of tragedy and mystery.

"I'm not sure of the exact year he passed away, but he died at Central State Hospital," Spires said. Central State is a 495-bed psychiatric state hospital that was originally established in 1870 as a separate institution for African-Americans who had mental health disorders.

"The story I heard was that some young black man called him an Uncle Tom and that Jerry went after him with an ax. I believe he died around 1915 to 1920. He must've been close to 80 years old when he died."

Considerable African folklore, along with an idealized representation of the antebellum South, was brought to a national audience with Joel Chandler Harris' *Song of the South* stories.

"You know, well before Harris wrote about Uncle Remus and Brer Rabbit, Brer Fox and Song of the South, my grandfather said he'd heard all those stories from Jerry Stevens," Spires recalled.

Still Talkin' Turkey

With many collectibles, the attributes that set something apart in terms of value and rarity are the stories behind the artist, manufacturer, or end-user. Elliott, with an undergraduate degree in history, finds the stories behind the Stevens' calls valuable.

When he takes to the woods today, Elliott usually carries, among a few other options, a handcrafted Niles Oesterle box call in the woods. It's loud, resonant and carries deep in the big woods. An Oesterle call

For Col. Bruce Elliott hunting wild turkeys has become more than just a sport. It has become a way for him to connect with nature and the outdoors, and to learn more about the rich heritage that has followed this unique form of hunting.

now takes up to two years to obtain and costs a couple hundred bucks, Elliott said.

Undoubtedly, Jerry Stevens' calls were behind the demise of many a longbeard, but today they're pieces of Americana. Elliott wouldn't dream of trying to hunt with them. He did, though, take a few out to gently run a few strokes across them. Some were a little rough around the edges. One, though, is a slim version reminiscent of many gunstock calls seen today. Virginians Don Falls, of Waynesboro, and Richard Shively, of Stephens City, are among the well-known makers of this type call.

The ultimate reward for any turkey hunting enthusiast, including Col. Bruce Elliott, is learning and practicing how to "talk turkey" well enough to fool a wise old gobbler. Doing so with a finally handcrafted turkey call just adds to the magic.

Elliott coaxed a decent yelp and elicited some authentic clucking sounds from the Stevens' call.

"There's no doubt that, today, I could call a turkey using this call," Elliott declared. □

Ken Perrotte is an outdoor writer who lives in King George, Va. So far, turkeys have been unimpressed with his calling prowess. When last seen, he was kicked back in a recliner, turkey calls in his lap, watching a video and trying to learn how to make that slate call sing to an old gobbler.

Custom Call Collecting Basics

People have been hunting turkeys since the first days someone was fortunate enough to catch one and found out that they taste good. Eventually, some shrewd hunters learned that they could catch the turkeys more easily if they learned how to talk to them.

The American Indians had long crafted wingbone yelpers and white Europeans settling in North America soon learned their technique. Scratch "Gunstock" calls date to the 1700s. Many custom call makers today make fine sounding scratch calls. They're popular with collectors and hunters. Hunters like them because they're small and easily slip into a shirt pocket.

Box calls, sometimes called "paddle calls," began in the 1800s with Gibson patenting a box call in 1897. Later, M.L. Lynch and Neil Cost were among the most notable box call manufacturers.

John E. Jackson and Edward Gray Chalkley began making a pushbutton box call in Richmond in the 1920s. One of their new calls then cost a whopping 25 to 50 cents, equivalent to a half-day wages for many. People who couldn't afford a "production" call during those lean years used whatever materials they could scrounge, plus their own time and talents to try to replicate the call.

Turkey call collectors are very much like duck decoy collectors in that provenance is important in assessing value, especially with the value some of the most collectible calls are fetching. An accurate and historic audit trail leading to the maker, coupled with important details such as signatures, markings or labels help determine if a call is the real McCoy. Many call makers today sign or engrave their calls. □

©Ken Perrotte

Silver Bullets of t

When the shadbush blooms it must be time to go shad fishing.

written & photographed
by King Montgomery

Virginia's Rappahannock River flows 185 miles from a spring-fed source on the eastern slope of the beautiful Blue Ridge Mountains. Along its wild course, it slowly changes from a babbling brook and small picturesque stream to a beautiful tidal river, four miles wide at its mouth where it breaks out into the Chesapeake Bay.

In the Algonquian language, "Rappahannock" means "rapidly rising and falling water." It isn't clear if the native Americans were referring to the changing of the tide four times a day, or to the fact the river seems to clear quickly after a storm or heavy rain making it fishable within a day or two. Although not as pristine as the days when the Algonquians lived along it, the river is one of the most unspoiled waterways in the mid-Atlantic region, with little development along the banks, and only one small dam to mar its course. The outdated Embry Dam, upriver from Fredericksburg, will be removed within a few years. This will open about 75 more miles of habitat for shad, herring and striped bass to live and spawn in. The few remaining anadromous fish that come up the river must now stop just above the fall line outside of Fredericksburg, well short of their traditional spawning areas.

Several years ago, I returned to fish for Rappahannock shad after a hiatus of over 15 years. Shad numbers had dwindled so badly due to habitat degradation and commercial

Left: Fishing guide Smith Coleman nets a hickory shad. When the shad run is in full swing it's not uncommon to catch 50-60 fish in a day. Below: The fall line of the tidal Rappahannock River at Fredericksburg. This view is looking west, or upriver, from the U.S. Highway 1 bridge between Falmouth and Fredericksburg.

he Rappahannock

over-fishing that it wasn't worth the trip, even from only an hour away from my home in Northern Virginia. But now the shad were back, particularly the shiny, fluorescent hickories. Their American shad cousins are still in trouble, but are on the rebound, particularly on the James River due to the success of the Virginia Shad Restoration Program; perhaps they will make a comeback on the Rappahannock after the dam comes down and the fish can reach their more historic spawning grounds miles above Fredericksburg.

Smith Coleman, a local schoolteacher and angling guide, and I were standing mid-stream on a sand bar between two large rocks that rose above the water even at high tide. Nearby, Suzanne Malone, a naturalist who works for Fairfax County to the north, is an angling student of Smith's and today she was learning the shad-catching ropes. The U.S. Highway 1 bridge overhead carried vehicles between Fredericksburg and Falmouth, whose occupants were oblivious to the activity below. The Fredericksburg shore

A hickory shad comes to the net of a fly-angler. A good medium weight fly rod with sinking-tip line, a strong tippet, and a flashy weighted fly (preferably in white or chartreuse) is a perfect combination for attracting the strike of a hungry shad.

1980s, when most people would keep every shad and herring they caught, to be stripped of the tasty roe and the flesh salted. It was encouraging and a sign of the new times that almost all the fish caught this day were released to carry on with their reproductive mission.

Spinfishers use 6- to 7-foot light to medium action rods, and reels spooled with line from 6- to 10-pound test. Shad darts in a variety of sizes and colors will work—I like a chartreuse head with a white tail—and may be fished singly, in pairs or in tandem with small gold or silver spoons no larger than ¾ inch. Sometimes a split shot or two will help take the rig down closer to the bottom where the shad often hold.

Angling guide Smith Coleman coaches Suzanne Malone to a hickory shad hook-up under the U.S. 1 Highway bridge.

was lined with anglers, and some waded out from the Falmouth side, but we were alone in the middle of the river and our fly rod-launched Clouser deep minnows and shad darts cast on light spinning tackle were catching hickory shad now and then.

Others were scoring, too. Most were casting small, brightly-painted shad darts, usually two of these little jigs to a line. Occasionally, anglers would bring in two fish at a time, and, equally noteworthy, let them go. I remember back in the early

Tackle & Tactics

By late April and into May, at least in fairly "normal" times, the egg-laden striped bass join the shad on their spawning runs. Although hickory shad are a light-tackle fish, an adult striper intent on reaching the spawning grounds can destroy light tackle and whisper-thin line. When stripers are around, Smith upgrades his tackle accordingly, using fly rods for a 7- or 8-weight line and medium-heavy spinning gear with at least 10- to 15-pound test line. Heavier fly and spinning gear will help you land the fish before it fights so hard and long that it never recovers from the effort.

Fly anglers are comfortable with a 9- or 10-foot rod for a 5- to 6-weight line, and a 7- or even an 8-weight is recommended if the striped bass bite is on. Most fishing is done with a floating line but, if the sun drives the shad deeper, a sinking tip line is needed. A 3- to 6-foot monofilament leader tapered to 6- or 8-pound test tippet is adequate. Sometimes you might need some lead to get the fly down.

Chartreuse and white Clouser deep minnows in size 6 or 8, and various cone- and bead-headed woolly buggers in chartreuse or white work

well for me. If you're getting short strikes on either fly, trim the tails back a bit and try again. I also use Crazy Charlie and Gotcha bonefish flies in chartreuse or pink and catch plenty of hickories on them. Anything tied in gold is good.

Cast across current or down and across and take in the slack line. Strikes will occur during the lower third of the drift, often when the line straightens in the current. Don't set the hook too hard. Just tighten up and hang on; these herring-like fish, a relative of the southern tarpon, jump and tail-walk like crazy.

A Bountiful River

It is not necessary, of course, to concentrate near the Highway 1 bridge to catch fish. Shad and stripers are caught all along the tidal river, but this spot is a traditional and convenient location where anglers socialize, trade secrets and fishing lore, and catch fish, too. Fishing here is often a family affair, replete with picnic lunches. If you are new to this type of fishing, this is a good place to start because most anglers willingly share their knowledge and skills. And you can learn a lot by just watching.

To reach this spot on the Rappahannock from Interstate 95, take the Highway 17 Business exit for Falmouth. Turn right on U.S. Highway 1, then take an almost immediate right and follow the road down and under the Highway 1 bridge. Go about a quarter of a mile to the parking area on the right. The river is a short walk away. The city park on the Fredericksburg side of the river also has ample parking, and picnic facilities as well. Instead of taking the right turn off of Highway 1, continue over the bridge into Fredericksburg; take the left at the first light, then an immediate left. Follow the road to the right along the river until you see the park on the left in a few hundred yards.

The shallow waters of the Rappahannock River at the fall line make it ideal for wading. Caution should always be taken anytime you are around water, even when wading. Right: Light spinning tackle and a good supply of brightly-colored shad darts are all that it takes to test your angling skills.

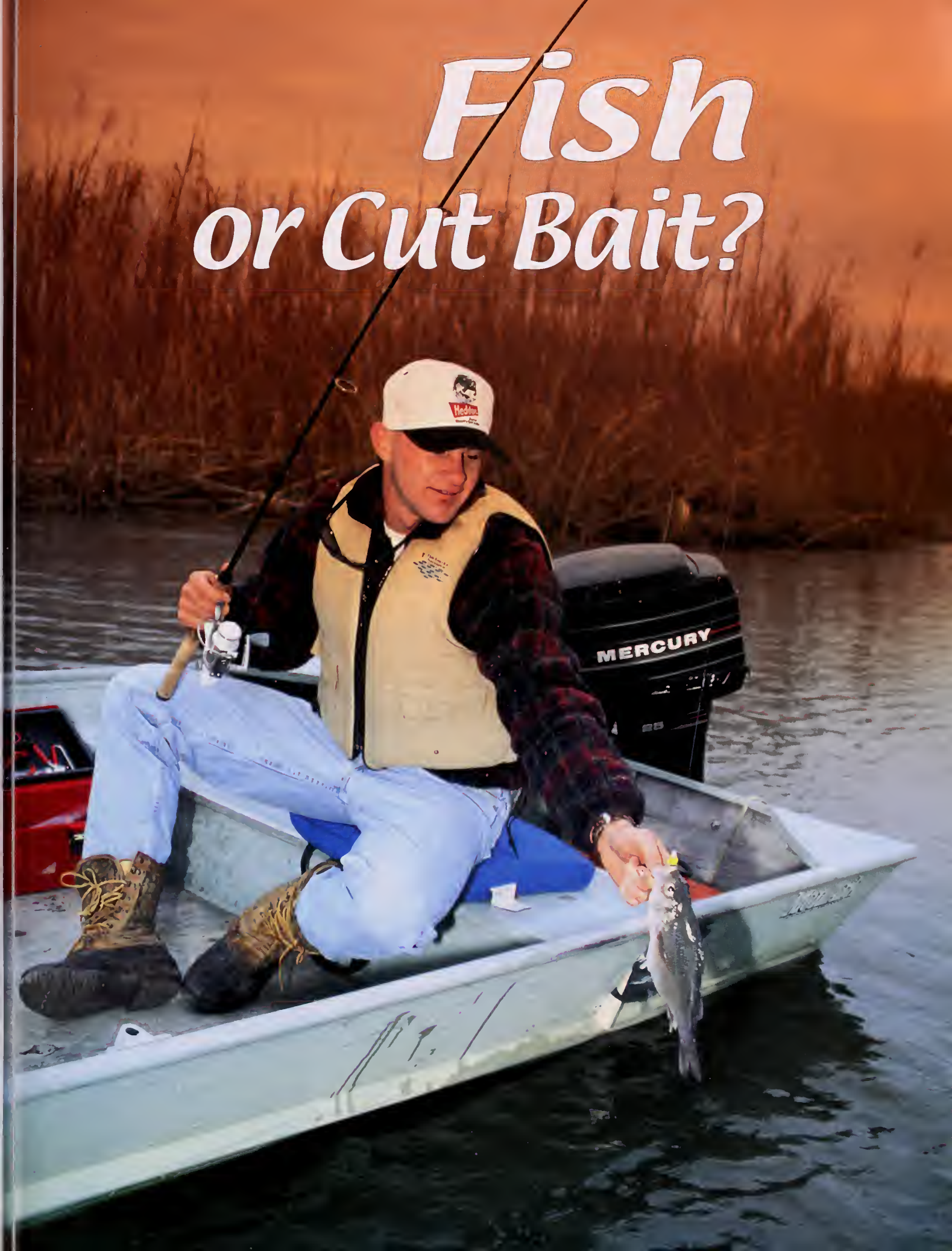
Shad are members of the herring family and are related to tarpon. Shad, like tarpon, are great jumpers and often shake the hook loose during their aerial antics.

Rappahannock River Information

- Smith Coleman guides on the upper and tidal Rappahannock and on other streams in the area for smallmouth bass and trout. Call him at The Rappahannock Angler, located at Outdoor Adventures, (540) 786-3334 or (540) 710-6194.
- Bass and striper guide Captain Teddy Carr works out of a bass boat on the Rappahannock, the Potomac, and on nearby Lake Anna. Call Teddy at (540) 854-4271.
- The Fall Line, an Orvis fly shop in Fredericksburg, has clothing, gear, and guides. They are at (540) 373-1812 or see the Web site at www.fishthefalline.com.
- The Virginia Department of Game and Inland Fisheries Regional Office in Fredericksburg is at (540) 899-4169.
- The Friends of the Rappahannock is a non-profit conservation organization of landowners and concerned citizens who wish to protect this beautiful river. For more information, call them at (540) 373-3448.
- Fredericksburg and Spotsylvania National Military Park, (540) 373-4461. Several major Civil War battles were fought here, and the river played a part in all of them.
- *Shad Fishing: A Complete Guide to Species, Gear, & Tactics* by C. Boyd Pfeiffer, 2002, Stackpole Books (1-800-732-3669, www.stackpolebooks.com). The best book ever on shad fishing for the fly or spin angler.
- Map reference: page 70, DeLorme's *Virginia Atlas & Gazetteer*, 1-800-452-5931 or www.delorme.com.

King Montgomery is a nationally-known, award-winning outdoor writer and photographer who lives in Burke, VA. He is a frequent contributor to Virginia Wildlife.

Fish or Cut Bait?



by Jack Randolph

Some people call them "stiffbacks" and down at Back Bay they're "blue noses," but most folks call them white perch. For some they are sort of a "ho-hum" fish, one that you can take or leave, sort of a consolation prize you win when you offer a minnow to a largemouth or striped bass. Of course, that depends on how much you paid for your minnows.

A close relative of striped bass, the white perch is a fine table fish, making up in flavor what it lacks in size and it is a pretty feisty little customer on its own. In addition to taking a wide variety of natural baits, such as minnows, earthworms, night crawlers and grass shrimp, the perch will smack spinners, small jigs, streamer flies, nymphs and tiny plugs.

In Virginia white perch can be found in the tidal waters as well as in closed systems, such as Buggs Island Lake and Lake Gaston. Although it is closely related to striped bass, it is not as wide ranging as the striper. The perch uses the upper, freshwater reaches of its range for spawning and nursery areas, but it eventually drifts down into the more brackish reaches of its home river to winter. In the James River it likes to winter in the stretch between the Chickahominy and Warwick rivers.

There is an enthusiastic party boat fishery for white perch in the lower Potomac River, while in Virginia the perch are given scant notice. Here in the Old Dominion most perch are caught on their annual spawning run in late March. If one were to pick a couple of places where white perch were the most popular among anglers, my vote would be the Piankatank River and its next door neighbor the Rappahannock River near Fredericksburg, where anglers offer bits of bloodworm to the spawning fish.

My most exciting bout with white perch occurred on the Chickahominy River on March 4, 1964, which was a very cold, rainy day. We were fishing out of Lacy Allen's Fishing Camp, often known as Allen's Camp #2. Lacy has since passed on. The camp is now well known to anglers as the Riverside Camp, operated by Walt and Mike Johncox who formerly operated a camp on New York's Lake Ontario.

We were actually fishing for striped bass. In those days there was no striped bass season and February and March were prime time to catch them on live minnows on the Chickahominy.

White perch are not only fun to catch and great to eat, but offer anglers, in search of big cats and stripers, live bait that's hard to beat.

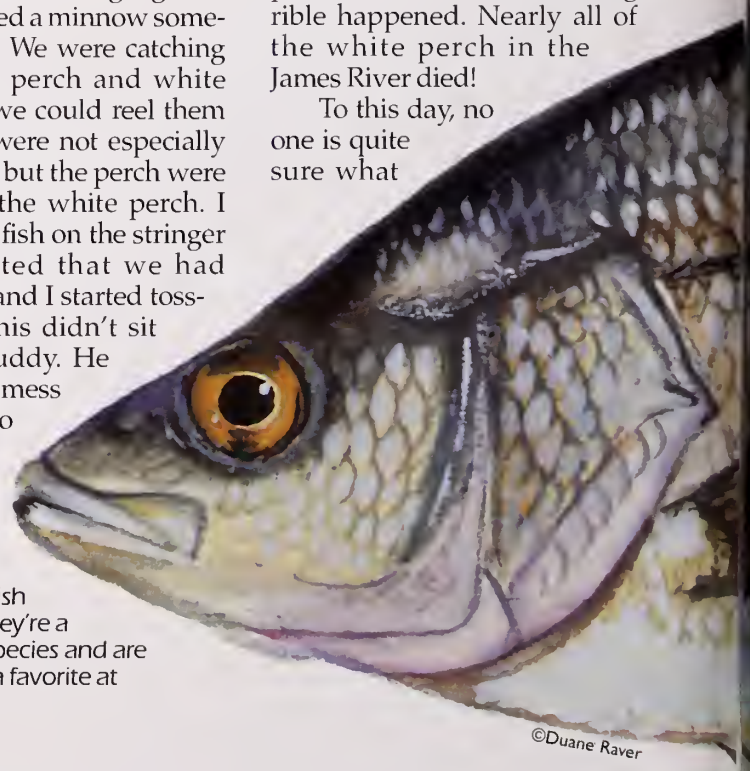
We ran down the river to a deepwater location near Diascund Creek.

It was action from the get go. As soon as we lowered a minnow something grabbed it. We were catching stripers, yellow perch and white perch as fast as we could reel them in. The stripers were not especially large for stripers, but the perch were nice, especially the white perch. I had a dozen fine fish on the stringer when I suggested that we had enough keepers and I started tossing fish back. This didn't sit well with my buddy. He said he wanted a mess for the freezer so we kept every decent fish we caught. I hate to tell you how many fish we had, but it made for one of the best fish fries ever.

Although this was one great fishing day, the thing I remember most was arriving home soaked, tired and half frozen. My fishing "buddy" grabbed his tackle and, without taking any fish, just drove off leaving me with more fish to clean than I like to think about. I learned that evening that you don't call white perch "stiffbacks" for nothing. Those fish are all fins and fire, but I filleted and my son took care of the carcasses while my wife wrapped the fish. We were right popular with the neighbors after that day, but I had to go out and round up a new fishing buddy. Actually, I didn't have to look far. My son, who was six at the time, gladly took over the position, one he has held until this day.

Back in the 1960s fishing for white perch on the James and Chickahominy was great. They were plentiful and fish up to a pound were common. From 1966 until 1970 white perch from the James made up 20 percent of the total commercial landings in Virginia. The long-term annual yield was 56,000 pounds! But in 1971 something terrible happened. Nearly all of the white perch in the James River died!

To this day, no one is quite sure what



White perch are not actually a member of the perch family, but are related to rockfish and white bass. They're a very popular fish species and are guaranteed to be a favorite at the table.

happened, but by the winter of 1973-74 the white perch in the James River were nearly extinct. Normally the Virginia Institute of Marine Science (VIMS) scientists would catch from 47 to 167 perch in ten minutes towing a trawl net in the James River. By 1974 the catch was less that a half a fish in a 10-minute tow—a 250-fold reduction. The average commercial catch in the James from 1967 to 71 was 56,000 pounds of white perch per year. In 1966 they caught 171,000 pounds. The catch dropped to 4,000 pounds in 1973.

The white perch kill was confined to the James River system. Similar declines in white perch were not noted in the York or Rappahannock rivers, but, previously, in 1963, the Potomac River suffered a white perch die off of similar proportions and it, too, defied understanding. After 1971 the perch began to recover and they have regained their stature as an important pan fish for sportsmen and as a commercial fish.

A relatively new white perch fishery has developed in Kerr Reservoir (communally referred to by most Virginian's as Buggs Island) and Gaston Lakes. Stan Rickman at the Clarksville Sports Center says that the perch have a good following on Buggs Island Lake where perch up to a pound are delightfully common. They are usually caught deep on a variety of baits including worms and small minnows. Jigging small lures, like a silver buddy or plastic minnow imitations, while slowly moving about is a good way to locate schools of white perch. Occasionally, they can be caught on the surface where they are feeding on small baitfish.

On the Rappahannock River, according to Chris Hicks at Hicks Landing, cut white perch is one of his favored baits for the big blue catfish that are caught there. In the days before the blue cats were introduced into the James River I caught many a nice channel catfish on live white perch. In fact, I remember one time when an angler fishing in Upper Chippokes Creek, caught a 7-pound largemouth bass on a live white perch.

When I was a youngster in Jersey I used to catch white perch in the late winter on grass shrimp in brackish estuaries, such as the Metedeconk River and Beaver Dam Creek. In the late 1960s, when winters were cold enough to put 6 or 7 inches of ice on Jersey's Mullica River, anglers would catch hundreds of big perch on minnows through the ice. Yet, any place you find them the white perch is a most pleasing fish. It is a scrapper on a fishing line and a fine addition to your dinner—but be careful—their gill covers are razor sharp and their fins—well, as I said, they don't call them stiffbacks for nothing. □

Jack Randolph has been writing about the outdoors since 1948. He is the author of "Jax Fax," a weekly, online subscription, outdoor news service that offers subscribers the latest information on fresh and saltwater fishing, and other outdoor interests. If you would like information on how to subscribe you can contact Jack at fishfind@erols.com.

In a 2002 springtime creel survey, fisheries biologist Tom Gunter noted that at the fall line on the James and Rappahannock rivers, white perch fishing is extremely popular among anglers. During the spring months on the James River white perch were the second most sought after fish, with shad taking the number one spot.

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Things are on the Water.

by Jim Crosby

The rules and regulations to which boaters must comply vary from state to state because, in addition to the various state laws, one must also consider the federal regulations, and whether or not they overlap. While it is generally accepted that the federal regulations set the standard, each state has an opportunity to enact its own regulations with wide latitude.

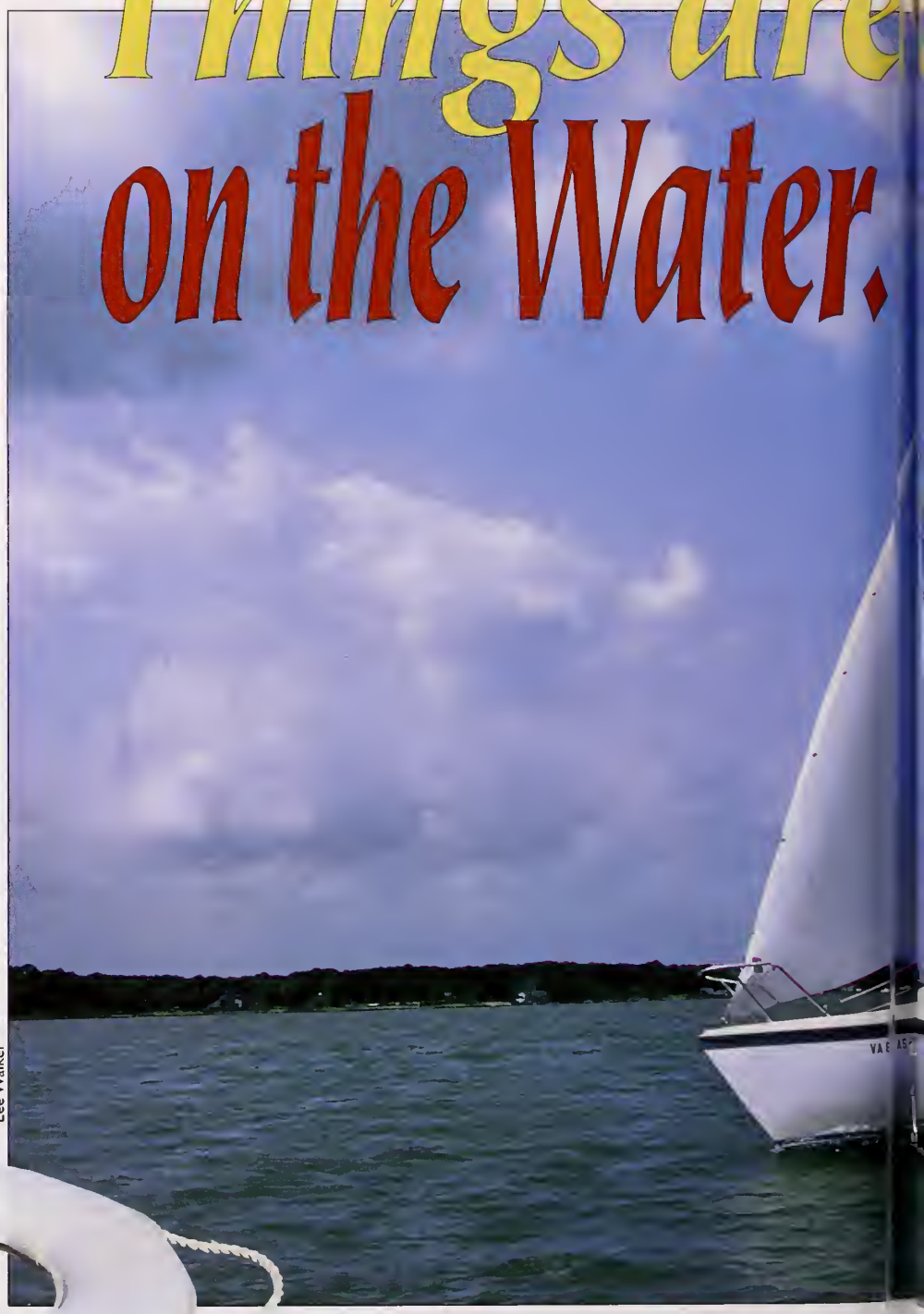
This leaves lots of room for confusion among boaters, especially those traveling through multiple states. Even within their own state, they must consider whether or not they are on coastal waters where the Coast Guard has clear jurisdiction, or sole state waters where local law enforcement officers can only enforce their own local or state code.

In an effort to clear up some of this confusion, a major revision of Virginia boating regulations occurred last fall—regulations that became effective January 1 of this year. Touted as the "most extensive revision since the mid '80s," it was prompted by the Coast Guard's changing the boating accident-reporting threshold from $500 to $2,000 in damages.

Larry G. Hart, director of Boat Registration & Titling for the Department of Game and Inland Fisheries, said, "We knew we would be opening the regulatory process for boating and wanted to consider several prospective regulations that had been identified during the 1998-99 boating legislative package that had not been acted upon.

"We put together a group to study and develop our staff proposals. The review committee included Colonel Jeffrey A. Uerz, Captain Roger O. Rowe and Lieutenant Dennis F. Mullins from the Law Enforcement Division. Jeffrey E. Decker, Boating Education coordinator; George O. Bridewell, manager of Boat Registration and Titling; and Charles A. Sledd, Virginia's Boating Law Administrator also joined us on the committee.

"This group developed the staff



Lee Walker

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proposals that resulted in the approval of the board of the Game Department and eventually became the current regulations."

Sledd said, "Before these amendments, the Department only adopted by reference the federal requirements in these subject areas, and from a law enforcement perspective, the actual state regulations will be beneficial. The amended Virginia regulations now give the Department its own regulations regarding navigation lights and shapes, safety equipment requirements and commercial vessel safety equipment requirements."

To alert the boating public and enumerate the changes, the Game Department has published a pamphlet for distribution and placed all the information on their Web site at www.dgif.state.va.us.

The specifics of the new regulations that became effective on January 1, 2003, are as follows:

Let's talk about life jackets, legally referred to as personal flotation devices (PFDs), first. The old regulation did not require a throwable, Type IV PFD, on boats less than 16 feet in length. The new regulation requires at least one U.S. Coast Guard approved Type IV (ring buoy or seat cushion) per boat, on all recreational boats regardless of size, in addition to the wearable PFD required for each person on board. This new regulation does not apply to personal watercraft (jet skis), canoes, kayaks and inflatable rafts.

The second regulation addresses the wearing of PFDs. The old regulation stated that water skiers being towed by a personal watercraft (PWC) did not have to wear a

Changing

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Whether you enjoy sailing or water skiing, knowing which life jacket best suits your boating interests can help to make your day on the water safer and more comfortable.

Lee Walker

Life jackets come in different sizes and shapes, and are designed to fit your boating needs.

PFD provided a dedicated observer was on board in addition to the operator. The new regulation states that, in addition to the operator and all passengers on board, those being towed by a PWC must wear a Coast Guard approved life jacket at all times when the PWC is underway.

The third regulation specifies the proper stowage of PFDs. The old regulation contained no definition of proper stowage. The new regulation states that each required Type I, II or III wearable PFD must be readily accessible; readily accessible is defined as "the PFDs are stowed where they can be easily reached, or are out in the open, ready for wear. A readily accessible PFD cannot be in a protective covering or under lock and key." It further states, "Each Type IV throwable PFD must be immediately available" and explains, "the PFD shall be quickly reachable in an emergency situation, cannot be in a protective covering, in a closed compartment, or under other equipment.

The fourth regulation defines "serviceable condition of PFDs." No such definition was offered in the old regulation. The new one states, "A PFD is considered to be in serviceable condition only if the following conditions are met: 1.) No PFD may exhibit deterioration that could diminish the performance of the PFD, including; a.) Metal or plastic hardware used to secure the PFD on the wearer that is broken, deformed, or weakened by corrosion; b.) Webbings or straps used to secure the PFD on the wearer that are ripped, torn, or which have become separated from an attachment point on the PFD; or c.) Any other rotted or deteriorated structural component that fails when tugged." 2.) In addition to meeting the requirements of the above, "no PFD, including the components of a hybrid inflatable PFD, may exhibit: a.) Rips, tears, or open seams in fabric or coatings, that are large enough to allow the loss of buoyant material; b.) Buoyant material that has become hardened, non-resilient, permanently compressed, waterlogged, oil-soaked, or which shows evidence of fungus or mildew, or; c.) Loss of buoyant material or buoyant material that is not securely held in position. 3.) In addition to meeting the requirements of the above, an inflatable PFD, including the inflatable components of a hybrid inflatable PFD, must be equipped with: a.) A properly armed inflation mechanism, complete with a full inflation CO_2 cartridge and all status indicators showing that the inflation mechanism is properly armed; b.) Inflatable chambers that are all capable of holding air; c.) Oral inflation tubes that are not blocked, detached, or broken; d.) A manual inflation lanyard or lever that is not inaccessible, broken or missing; and e.) Inflator status indicators that are not broken or otherwise non-functional. 4.) The inflation system of an inflatable PFD need not be armed when the PFD is worn inflated and otherwise meets the requirements above.

Dwight Dyke

Inflatable life jackets are light and very comfortable, but if they are to work properly it's best that they be worn at all times.

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Make sure that your life jackets are in "serviceable" condition. It's now the law.

©Dwight Dyke

Lee Walker

No matter what size vessel you are piloting, you must now make sure that you establish a safe operating speed at all times while under power.

The fifth regulation establishes "vessel lighting" requirements. In the old regulation, a vessel could display an all-around white light when adrift. The new regulation states, "Vessels adrift must show proper navigation lights for being underway." These include at least one white all-around light and the red and green sidelights.

The sixth regulation defines "unsafe practices." The new regulation states, "It is unlawful to allow any person to ride or sit on the bow, gunwales, transom, or on the decking over the bow of the vessel while under power unless such motorboat is provided with adequate guards or railing to prevent passengers from falls overboard. Passengers or other persons aboard a watercraft may occupy these areas of the vessel to moor or anchor the watercraft, to cast off, or for any other necessary purpose."

The seventh regulation defines "safe speed." The new regulation states, "a safe speed is a speed less than the maximum at which the operator can take proper and effective action to avoid collision and stop within a distance appropriate to the prevailing circumstances and conditions." It explains, "In establishing a safe operating speed, the operator shall take into account: visibility, traffic density, ability to maneuver the vessel such as with stopping distance and turning ability, background light at night, proximity of navigational hazards, draft of the vessel, limitations of radar equipment if so equipped, and the state of the wind, sea and current."

The eighth new regulation covers "accident reporting." The old regulation established the accident damage threshold of $500. The new regulation establishes the threshold of $2,000 to match that of the Coast Guard for uniformity. It states, "When an accident occurs that requires a written report, the operator shall, without delay, by the quickest means available, notify the Virginia Department of Game and Inland Fisheries in Richmond, Virginia, or the most immediately available member of the Department's law enforcement (game warden) force, of: 1.) The date, time, and exact location of the occurrence; 2.) The major details of the accident including the

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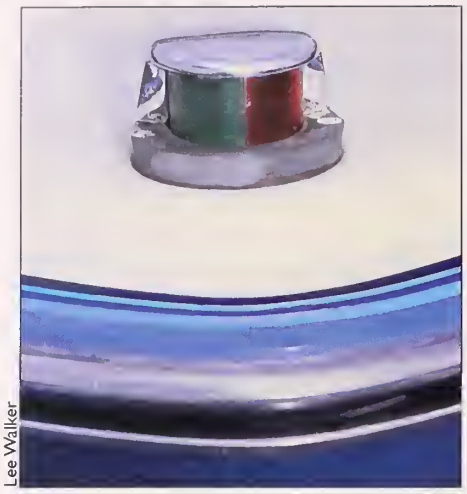
Type III life jackets are designed for comfort and water sports.



Lee Walker

New vessel lighting requirements help to make boats more visible.

name of each person who died or disappeared; 3.) The number and name of the vessel; and 4.) The names and addresses of the owner and operator." It further states, "When the operator of a vessel cannot give the notice required, each person onboard the vessel shall notify the Department or a member of its law enforcement force, or determine that the notice has been given. The operator must report any accident where: 1.) A person dies; 2.) A person disappears from the vessel under circumstances that indicate probable death or injury; 3.) A person is injured to the extent of being unable to perform normal or usual activities; 4.) Damage to the vessel and other property damage totaling $2,000; and 5.) There is complete loss of the vessel."

Lee Walker

Definition Highlights

- "Left" means port, or the left side of the vessel when facing the bow (the forward part of the vessel) from within the vessel.
- "Right" means starboard, or the right side of the vessel when facing the bow (the forward part of the vessel) from within the vessel.
- "Underway" means that a vessel is not at anchor, or made fast to the shore, or aground.
- "Vessel" means every description of watercraft, other than a seaplane on the water, used or capable of being used as a means of transportation on water, but does not include surfboards, tubes, swimming rafts, inflatable toys and similar devices routinely used as water toys or swimming aids.

Lee Walker

There have been noticeable changes in how you must report a boating accident. To learn more about these changes it is important that you refer to the Department's Web site at www.dgif.state.va.us or call (804) 367-1000.

Boat Registration Fees Change

The new regulations include a change in registration and titling fees as follows:

Registration*	Fee
Registration of watercraft less than 16 feet length	$27
Registration of watercraft 16 to less than 20 feet length	$31
Registration of watercraft 20 to less than 40 feet length	$37
Registration of watercraft 40 feet length and longer	$45
Livery of up to 10 watercraft	$27
Livery of more than 10 watercraft	$21

*There are additional fees not listed in table

The old regulations allowed only one registration card per boat could be in existence at any one time. The new regulations allow "more than one registration card per boat." They will be issued for a fee of $9 for

Lee Walker

Dwight Dyke

Children under the age of 13 must now wear a Coast Guard approved life jacket while aboard a vessel that is underway on federal waters. In bigger boats, children are exempt when below decks or in an enclosed cabin.

a three-year registration. This change allows for a back-up registration card in addition to the one that must be aboard. □

Jim Crosby currently writes the "On the Water" column for Virginia Wildlife. *Jim is a Coast Guard certified coxswain, master boating instructor and outstanding member of the Coast Guard Auxiliary. He is retired and now specializes in research, writing and photography. He can be reached at jimcrosby@aol.com.*

New Federal Boating Regulations

Children Must Wear PFDs

The U.S. Coast Guard has established a new regulation for this boating season that requires children under the age of 13 to wear a Coast Guard approved life jacket or personal flotation device (PFD) aboard recreational vessels underway. The new federal regulation exempts children when below decks or in an enclosed cabin.

The Coast Guard states, "The rule was created to address the problem of childhood drowning while boating. Between 1995 and 2001, 210 of our children, under the age of 13 died while boating. Of those 210, 121 died from drowning. Most of these deaths could have been prevented if the child had been wearing a properly fitted life jacket."

Coast Guard Captain Scott Evans, chief of the Boating Safety Office in Washington, D.C., said, "Statistics show that life jackets save lives—but only when they are worn. Children customarily wear protective gear when rollerblading, skateboarding or bicycling, and similar precautions are in order on the water. The Life Jacket Rule was proposed to make sure that there is a life jacket rule in all states."

This rule affects only those states that have not established requirements, by statute or rule, for children to wear life jackets. For those states that have such a provision, the rule recognizes and adopts the existing state regulation, even if it is less stringent. Virginia is one of a dozen states that have no current regulation for life jacket wear by children except when aboard a personal watercraft (PWC) or when being towed by a PWC.

Federal penalties for a boat operator who fails to have all children under the age of 13 wear a life jacket are similar to those for failing to have life jackets on board. Penalties may be assessed up to a maximum of $1,100 for each violation. Coast Guard law enforcement officers will be enforcing this new regulation on all coastal waters where they have clear jurisdiction. Game Wardens and local law enforcement officers can only enforce local and state regulations and cannot enforce this federal regulation no matter how strongly they feel about its usefulness. □

Skippers Must Steer Clear of Naval Vessels

The terrorist attacks on September 11, 2001, have changed many things in our lives—even the way we must navigate our recreational vessels. As one of the thousands of recreational vessel operators in Virginia, our role in keeping our waterways safe and secure has been redefined.

New federal regulations require all skippers to observe the Naval Vessel Protection Zone by maintaining a 500-yard buffer between their vessel and all military vessels. If you must approach within 500 yards, you must slow to a minimum speed to maintain steerage and proceed as directed. If you need to pass within 100 yards of a U.S. naval vessel in order to ensure a safe passage in accordance with the Navigation Rules, you must contact the naval vessel or the Coast Guard escort vessel on VHF-FM Channel 16 and proceed as directed by the Commanding Officer or the official patrol. Violators of the Naval Vessel Protection Zone can face up to 6 years in prison and a $250,000 fine if they survive the "quick and severe response" of the vessel's command.

In addition to observing the naval vessel protection zone, skippers are urged to keep their distance from other commercial vessels such as cruise lines and commercial shipping because this could be perceived as a threat and result in an immediate boarding by the Coast Guard. Skippers must be alert to observe and avoid all security zones to include commercial port operations, petroleum facilities, restricted areas near dams, power plants, etc.

Skippers should never stop or anchor beneath bridges or in a channel because that could also result in a boarding. You are urged to keep a sharp eye out for anything that looks peculiar or out of the ordinary. Report all activities that seem suspicious to local authorities, the Coast Guard, or port security. Do not approach or challenge those acting in a suspicious manner. Go to www.uscg.mil/safeports/ for information on specific port or waterway restrictions, or check with local authorities. ☐

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Top: Boaters are advised that new federal regulations require all boats to keep a 500-yard buffer between their vessel and all military vessels. Above: Make sure life jackets are "readily accessible."

Wild in the Woods

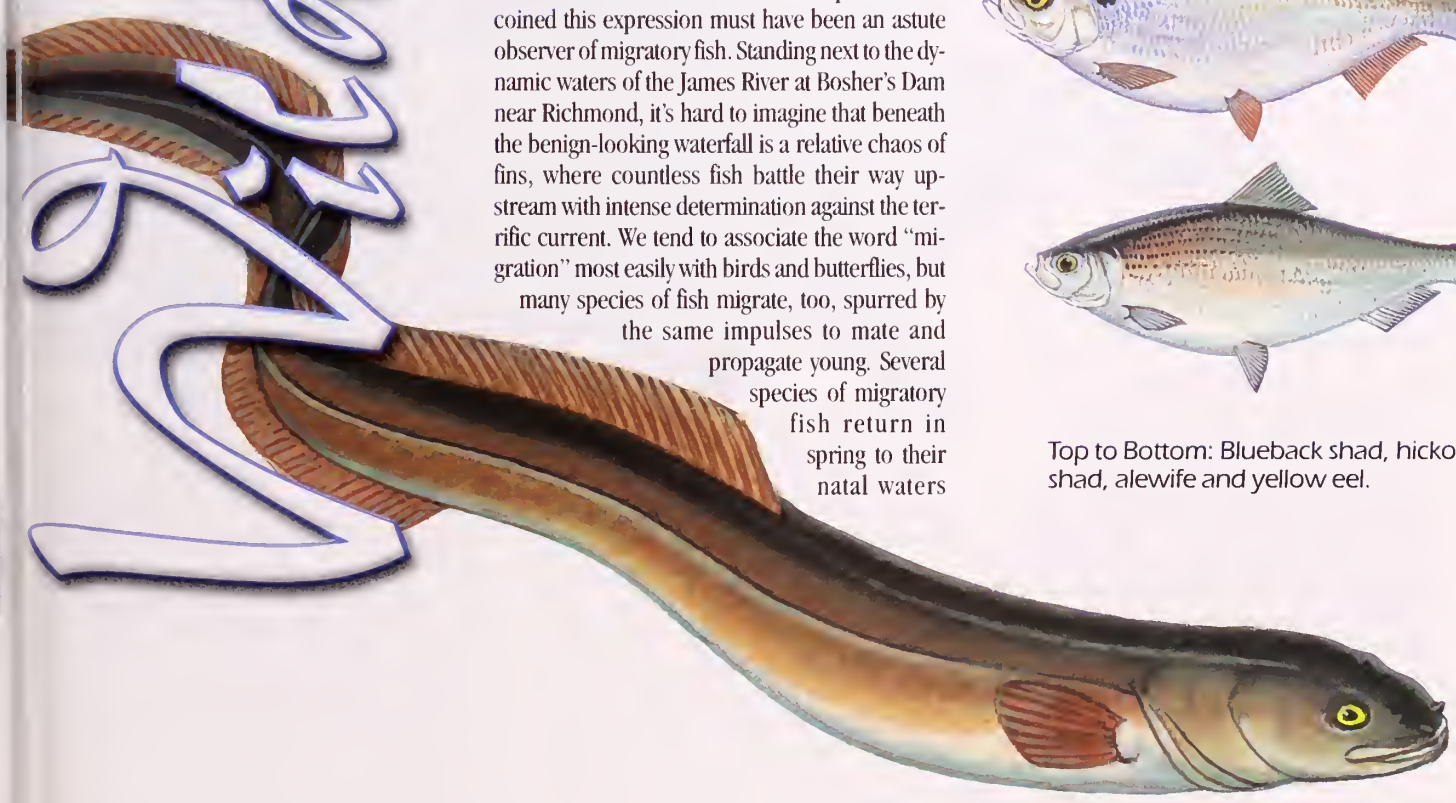
You Say Anadromous, I Say Catadromous

by Carol A. Heiser
illustrations by Spike Knuth

Scientists want to know why some fish navigate between freshwater and saltwater in search of their spawning grounds?

There is an old saying that "only a dead fish swims with the current." The person who coined this expression must have been an astute observer of migratory fish. Standing next to the dynamic waters of the James River at Bosher's Dam near Richmond, it's hard to imagine that beneath the benign-looking waterfall is a relative chaos of fins, where countless fish battle their way upstream with intense determination against the terrific current. We tend to associate the word "migration" most easily with birds and butterflies, but many species of fish migrate, too, spurred by the same impulses to mate and propagate young. Several species of migratory fish return in spring to their natal waters (birth place) in Virginia to reproduce. Among these are the river herrings, such as the blueback herring and alewife, and the shad, such as hickory shad and American shad.

Top to Bottom: Blueback shad, hickory shad, alewife and yellow eel.



Since colonial times, the American shad *(Alosa sapidissima)* has supplied food for generations of people and has become an icon intricately associated with the history and culture of Virginia. The fish has been one of the more highly prized species for both its meat and its roe (eggs), and it inevitably became a cornerstone of the commercial fishing industry in the East. Shad are also fascinating to study because of their remarkable life history, a virtual odyssey from birth to death. Its migratory counterpart, the American eel *(Anguilla rostrata)*, is equally intriguing. The eel serves an important economic function as a food and baitfish in the fishing and export industries, and it serves an ecologic function as a predator in the aquatic food web. Both the American shad and the American eel offer mirror images of complex relationships between animal and environment, and their story of migration is one of survival and conservation.

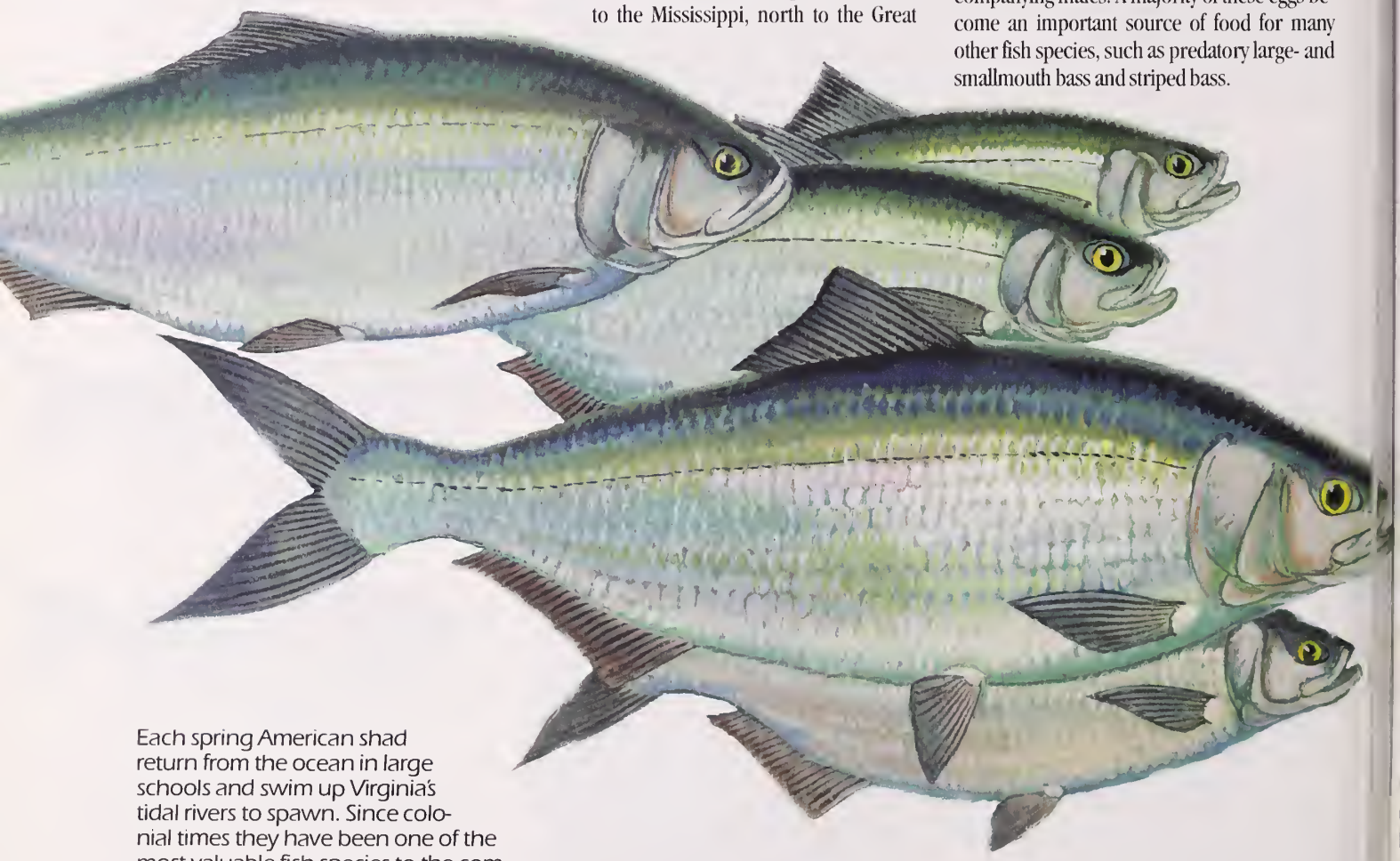
Hither and Yon

Fish that spend most of the year in the ocean and then journey through the Chesapeake Bay up into freshwater rivers to spawn are known as *anadromous,* a word whose Greek root means, "running upward." The American shad is an anadromous species that occurs along the Atlantic coast from Canada to northern Florida.

The lifestyle of *catadromous* fish is just the opposite: these fish are born in the sea but spend most of their lives in freshwater, returning to the ocean only when it's time to spawn. The American eel—whose range extends west to the Mississippi, north to the Great Lakes, and along the Atlantic seaboard from Canada to Panama—is the only catadromous fish occurring in the Chesapeake Bay.

American Shad

American shad are a schooling fish and are the largest of the herrings, ranging from 14 to 22 inches, or two pounds for small adults to 6 or 7 pounds for larger ones. Beginning in February or March and extending into the spring, American shad move from the ocean as far as hundreds of miles upstream into Virginia rivers to spawn. They spawn in open waters and generally do not venture into smaller tributaries; the onset of spawning correlates with rising water temperatures and longer day lengths. Females release hundreds of thousands of eggs into the water which are then fertilized by accompanying males. A majority of these eggs become an important source of food for many other fish species, such as predatory large- and smallmouth bass and striped bass.



Each spring American shad return from the ocean in large schools and swim up Virginia's tidal rivers to spawn. Since colonial times they have been one of the most valuable fish species to the commercial fishing industry. In the 1970s and 80s their numbers began to show a sharp decline. As a result, a major restoration effort began to help restore the American shad to the Chesapeake Bay and its tributaries.

American eels are a catadromous fish. They are born in the ocean and spend most of their adult lives in freshwater, returning to the ocean only when it's time to spawn.

When spawning is complete, a large percentage of the adults die. However, some return to the ocean and migrate north along the coast to feed in Canadian waters for the summer. Meanwhile "back at the ranch," the eggs hatch and the fry begin their development. Juvenile fish remain in the rivers until fall. They then migrate to the open ocean where they feed on micro-crustaceans and plankton and are themselves, in turn, fed upon by species like striped bass, bluefish and tuna. It takes three to five years for the young shad to reach maturity; during this growth period they migrate to more southerly waters for the winter and then return north in spring and summer. Upon sexual maturity, shad complete their life cycle by moving back into their natal waters to spawn.

American Eel

Eels are whip-like, elongated fish that have one continuous dorsal (back) fin and that secrete a thick mucous coating along their surface for protection—hence their reputation as slimy "water serpents." They begin their life cycle as tiny larvae in the ocean, presumably in the Sargasso Sea, carried passively by the Gulf Stream and prevailing currents northward over a period of many months, while they transform into transparent *glass eels*. Ultimately they are swept into the mouth of the Chesapeake Bay or other inlets along the Atlantic coast. Here in the mixed brackish and freshwater areas they begin to develop into the next stage, 2- to 3-inch *elvers* (from the root "elf" signifying a smaller version of an adult), and they produce skin pigment as they grow. Eels are known to mimic the coloration of the background in their environment in response to changes in lighting and substrates.

Gradually the elvers make their way upstream into freshwater rivers and smaller tributaries where they will remain for an unbelievable extended period of time, anywhere from five to 20 plus years depending on their growth rate, as immature adults or *yellow eels*. Yellow eels inhabit burrows in the muddy river bottom during the day and become active carnivores at night, preying on a variety of fish species and invertebrates such as insects, crayfish, snails and worms. Over winter the eels hibernate in the bottom mud.

During the last year of their life cycle when adult eels approach sexual maturity, they experience yet more physiological changes. The fish take on a metallic hue—hence the name *silver eels*—and their bodies prepare for migration by accumulating fat deposits. (At this stage they are considered more valuable to the fishing industry because higher fat content yields a better smoked product than that for yellow eels.) The tissues around the stomach atrophy or degenerate, since the animals do not feed along their migratory route. Their gills and kidneys are also adapted to handle the transition from fresh to salt water.

Adult eels range in size from 18 to 36 inches, with males smaller than females. They make their trek from river to ocean between August and December, primarily at night. Eventually they arrive at the Sargasso Sea, a two million square-mile body of warm, blue water defined by floating mats of algae called sargassum, located hundreds of miles off the coast of North America in the Atlantic near Bermuda. With their energy reserves spent and their journey complete, the adult eels finally spawn between February and April. No mature adults have been caught in the Sargasso, and it is presumed that the adults die after spawning.

Homing Instincts

Scientists aren't exactly sure *how* migratory fish are able to locate and successfully return to their "home" waters. There are several environmental stimuli as well as physiological adaptations in fish that might explain how these long-distance travelers navigate between freshwater and saltwater in search of their spawning grounds. One such explanation is that every body of water produces distinct molecular

"markers" defined by the water's salinity, pH, sedimentation and other chemical characteristics. Fish use their keen sense of smell to detect these markers and distinguish one body of water from another. It is also theorized that these fish may be responding to the earth's magnetic field or to the effects of polarized light. For example, experimenters have reported that eels which are moved more than 50 miles from their native waters are still able to find their way back.

Watery Roadblocks

Human settlement and development along the East Coast over our 400-year history has taken its toll on migratory fish species. In our rush to populate fertile lands and build towns, cities and major ports of commerce, we consistently interrupted the cycles of fish migration by constructing dams: large dams for hydroelectric power, smaller dams for cotton, flour, paper and iron mills; and countless dams for water supply reservoirs. By the early 1900s the historical spawning runs of American shad and other species had been relegated to the lowest reaches of our major river systems. These obstructions, along with the effects of overfishing, impaired water quality and degraded habitats, together combined to adversely impact fish reproduction and populations.

When eels reach full maturity they return to spawn in the warm waters of the Sargasso Sea in the Gulf Stream. When their eggs hatch, the young live among the massive floating mats of algae called sargassum.

To reverse the decline in shad and herring populations and address their need for unencumbered travel to and from the ocean, biologists began a major effort in 1988 to breach critical dams blocking the way and build special conveyances that facilitate fish movement, called "fishways" or passages. Virginia, Maryland, Pennsylvania and Washington D.C. togeth-

er restored over 750 miles of historic spawning runs in this way between '88 and '99, and an additional 110 miles of streams were opened between 2000 and 2002. Several dams along the James, Chickahominy and Appomattox rivers in Virginia have been breached or retrofitted with fishways that have contributed to a measurable increase in shad numbers. The Bosher Dam fishway near Richmond, for example, has seen an increase from 185 shad passing through in 1999 to about 1,000 in 2002. Other anadromous species have also benefited from fish passage efforts throughout the watershed.

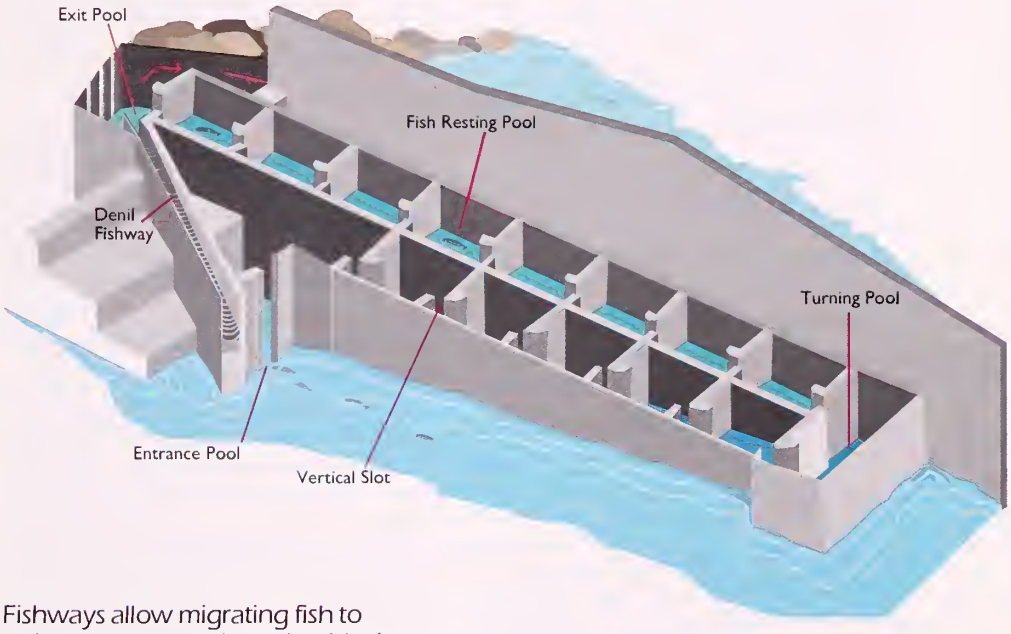
Fishway Designs

There are several fishway designs that help these animals overcome the hurdles of river obstructions. The two most commonly used designs in Virginia's Bay watershed are the *Denil* fishway and the vertical slot fishway. Deciding which design to use depends on a number of factors, such as the average amount or volume of water flowing through the stream (determined by the size of the watershed); the degree to which the flow might fluctuate during storm events; the fish species expected to pass through the structure; and the type of dam or blockage which must be overcome. The Denil fishway is used in low flow situations, while the vertical slot is used where volumes are larger and will fluctuate more dramatically, such as at Bosher's Dam.

To the untrained eye, a fish passage looks like a set of stairs or ladders laid side-by-side in the water (therefore the structure is sometimes referred to as a "fish ladder"). The Denil fishway is constructed of a 3- to 4-foot-wide, sloping, concrete channel which contains closely spaced, V-shaped wooden baffles (the "stairs") that slow water velocity. The channel is designed in sections with 180-degree turns between each, to minimize the amount of space or "footprint" that the overall structure occupies in the river. Fish are attracted to the entrance of the fishway by the smooth but fast-flowing water; it is their instinct to swim against this current. With a burst of speed the fish move up and over the baffles through each main section of channel, stopping at resting pools in each of the landing areas between the sections.

A vertical slot fishway, in contrast, is a larger structure with stationary, concrete baffles (walls) that extend from the top of the structure down to the riverbed. The sloping channel in this structure is 10 feet wide with 12-foot long pools, laid out in switchback fashion. The series of self-regulating pools and walls creates an elevation change of about 9 inches from one end of the fishway to the other. In effect, the fishway is designed as if the river's 10-foot vertical waterfall (dam) has been stretched out horizontally over 150 feet, making it a more gradual incline. Separating each pool in the structure is a specially shaped wall with a 16-inch gap or "slot." Engineered at a 45-degree angle, each slot allows water to rush through yet creates a quiet eddy behind the wall where fish can rest.

Fish can ride elevators upstream, too. A fish elevator or lift consists of a mechanical hopper or box outfitted with gates and suspended on large cables. Working on an automatic timer, the box sits submerged at the bottom of the streambed with one of its doors open, allowing fish to enter. After 15 minutes, the door shuts, the cables lift the elevator up to the next level, an opposite door opens, and the fish spill out to the other side.



Fishways allow migrating fish to swim up and over dams that block many of our rivers to continue their migration upstream to spawn. Above: This particular fish ladder or fishway is called a Denil and was constructed on the James River in Richmond to allow migrating fish to continue their journey upriver as far as Lynchburg. Since 1994, VDGIF has been actively involved in the restoration of the American shad.

Future Restoration

Finding the proper balance between the needs of the commercial fishing industry and the needs of various fish species has been an ongoing challenge for several decades. The American shad was one of the East Coast's most valuable fisheries in the late 1800s; its collapse during the 1970s and '80s has had a serious ripple effect throughout the fishing community. Virginia's catch alone decreased from 11.5 million pounds in 1897 to less than 1 million pounds in 1982.

To address this decline, a major goal of the Chesapeake Bay Program has been to restore the shad population in the East Coast rivers of Virginia, Maryland, New Jersey and Pennsylvania. All of the Chesapeake Bay and its tributaries have been closed to shad fishing for several years: Maryland closed its portion in 1980; the Potomac River was closed in 1982; and Virginia closed the remaining portion in 1994. Shad harvests are prohibited in rivers with depleted stock and are only allowed in individual rivers with healthy fish populations.

Other ongoing restoration methods have included hand-rearing shad in state and federal fish hatcheries for release into major river systems. To help boost these local conservation efforts, the Atlantic States Marine Fisheries Commission (ASMFC) initiated a plan in 1999 to phase out coastal shad catches by the end of 2004. This is expected to benefit shad stocks all along the East Coast.

Did You Know

Migratory fish are believed to have specialized hearing that enables them to dodge predators while in the open ocean. Efficient predators like bottlenose dolphins and other porpoises are the "cowboys" of the ocean, traveling in teams and rounding up schools of fish using a series of high-pitched, ultrasound clicks. The method, known as echolocation, is similar to that used by bats to catch moths. As the dolphins feed, they emit high-frequency, high-intensity bursts of sound that travel through the water and reflect off of objects, such as a school of fish. Researchers have observed that blueback herring and American shad, which are an important part of a dolphin's diet, respond to the ultrasonic sound waves by swimming away from the source. Although many other fish species also have ultrasonic hearing, they do not all hear alike. Goldfish, for example, are more sensitive to lower frequency sounds, while shad are more efficient at upper frequencies. There is, therefore, a direct relationship between the hearing thresholds of both predator and prey.

Young eels leave the ocean and travel hundreds of miles to return to the coastal and inland tidal waters. In this stage of their life they are call glass eels. They are about 1 to 2 inches in length, and are virtually transparent.

Learning More

Shad Video: "Long Journey Home"

The Virginia Department of Game and Inland Fisheries is producing a series of educational videos for teachers that target specific state Standards of Learning (SOLs). One of these videos, called "Long Journey Home," documents the agency's shad restoration efforts along the James River. A group of school children and agency fisheries biologists are filmed on a field trip to a state fish hatchery and to the Bosher's fishway as they learn about this migratory species. The video is a good supplement for teaching SOLs on watersheds and management of renewable resources.

In November of last year, 3000 of the videos were distributed to schools in "Love-a-Tree" kits prepared by the state resource agencies. VDGIF, along with the Departments of Forestry, Conservation and Recreation, and Environmental Quality collaborate to produce this kit with a different theme each year. The kit is released annually at the Virginia Association of Science Teachers conference. A limited number of videos and kits are still available to schools, as supplies last: visit the Virginia Naturally Web site at www.vanaturally.com for additional details.

Fishing is Fun

Help your students learn more about eels, shad and other fish using activities from VDGIF's fishing education curriculum. This user-friendly curriculum is suitable for teaching in youth organizations, physical education classes, after-school programs, and a host of other outreach efforts. Activities cover topics that range from natural history to safety and angling skills. For example, "Fishegory" is an activity that helps students learn to identify the types of waters that 28 sportfish call home. "Bait'er Up with Baitfish" is a hands-on activity that teaches how fish fit in the food web, and students learn what baitfish are and how to collect, store and use them for fishing.

Sample activities from the curriculum can be downloaded from the agency's Web site; www.dgif.state.va.us. The full curriculum is available along with other fishing-related materials when you register your program or event with the agency's Sportfishing and Aquatic Resource Education Program. Materials are provided free of charge to educators who have a valid Virginia fishing license (non-anglers pay a nominal charge). Rods, reels and tackle are also available for loan on a limited basis. Contact the Fishing Education Program at (804) 367-6778 for more information.

Project WILD

The recently revised Project WILD curriculum guide contains a new elementary activity called "Sockeye Scents" which illustrates how migratory fish use their sense of smell to guide them home. For a copy of the activity, contact the Project WILD coordinator at (804) 367-0188.

Other Web Sites of Interest

- Alliance for the Chesapeake Bay: sponsors the Bay Scapes conservation landscaping program and publishes the *Bay Journal*, at www.acb-online.org/.
- Atlantic States Marine Fisheries Commission at www.asmfc.org.
- Chesapeake 2000 Agreement: this is available on the Web site of the Chesapeake Bay Program, www.chesapeakebay.net.

Virginia Naturally

Journal

VDGIF 2003 Calendar of Events

April 4-6: *Becoming an Outdoors Women*, For information call (804) 367-6351.

May 3: *Virginia Outdoors Day*, Belle Isle State Park (near Litwalton). For information contact Sgt. Bob Mathers (757) 253-4160.

June 28: *Family Sea Kayaking Day*, Chickahominy Lake, near Richmond, Va. For information call (804) 367-6351.

August 2-3: *The Mother and Daughter Outdoors*, Holiday Lake 4-H Educational Center, Appomattox, Va. For information call (804) 367-6351.

September 7-10: *Decoy Carving Workshop*, Holiday Lake 4-H Educational Center, Appomattox, VA. Learn how to carve your own decoy, carving experience not needed. Tools, materials and instruction will be provided. For information call: (434) 248-5444 or www.ext.vt.edu/resources/4h/holiday/adultprograms.html.

September 13-14: *The Virginia Outdoors Weekend*, Westmoreland State Park, Montross, Va. For information call (804) 367-6351. □

3rd Annual Invasion of the Birds and Blossoms

by Marika Byrd

Gather a group of friends, get your calendars, writing instruments, and then schedule a day or two at the Norfolk Botanical Garden's 3rd Annual Birds & Blossoms, A Weekend for Birders & Naturalists, May 8–11, 2003. No, you do not have to be a birder or a naturalist to enjoy this weekend—just have a love of being in the outdoors and enjoying nature and the environment. Adults and children alike can enjoy a bonding time with nature.

The red-cockaded woodpecker is the featured species this year, and you will want to try and see it. This woodpecker is so rare that it has been on the federal endangered species list since 1968 and is one of Virginia's rarest bird.

According to Sue Thrash, Public Relations Coordinator at Norfolk Botanical Gardens, "Birds and Blossoms brings many local organizations together with a common goal: the conservation and preservation of Virginia's natural resources. Birds and Blossoms was created, in part, to showcase this aspect of the Garden. Trips to local natural areas that are part of the Virginia Birding and Wildlife Trail highlight our state's ecological diversity. The Garden is one of the premier sites on the Seashore to Cypress Loop." Norfolk Botanical Garden and the surrounding Lake Whitehurst are home to more than 95 species of birds. Some are migratory and only appear for a season; others live here year-round. Spike Knuth, resident writer/artist with *Virginia Wildlife* magazine, has been invited to exhibit his wonderful artwork during the event.

Field trips have limited enrollment, so registration will be accepted on a first come basis.

For additional information, costs, registration, etc. call (757) 441-5838 or visit the Web site at www.norfolkbotanicalgarden.org. □

AROUND THE CAMPFIRE

All in a Mornings Work

by Jennifer Worrell

A biologist who wishes to remain anonymous tells a story of the ultimate bad morning. He was scheduled to meet his partner at 3:00 a.m. to go out on a wildlife study. He started his truck so it could warm up while he packed his supplies. As he was traveling between the truck and the house, he accidentally locked the vehicle with the keys inside. The scientist knew he had an extra set of keys in the house, so he went in to get them along with his final load of things. With both hands full, he proceeded to his truck only to drop his spare keys down a storm water drain! Naturally, his hand wouldn't fit in the small openings in the manhole cover, and there was no way he could get the heavy cover off the drain on his own.

Gifted with the ability to think on his feet, this biologist turned to the bear hoist on his truck. He lowered the hook to the cover and prepared to loosen it with the winch. Unfortunately, the hook was way too big to fit in the holes.

Not to be outsmarted by the drain, the biologist went to his toolbox and retrieved a hex bolt and nut. He slipped the bolt in the hole, put a nut on the other side, and then hooked the hoist to the bolt. He was then able to lift the storm drain and climb in. He grabbed the keys, climbed out, removed the bolt, and replaced the cover. He jumped in his truck and took off.

Russell Baxter, Assistant Secretary of Natural Resources, delivers a Virginia Naturally School Recognition Pennant to Crestwood Elementary in Chesterfield County. This is the third year that Crestwood Elementary has been recognized for its Environmental Education efforts. Crestwood students have planted SAV grasses for the Chesapeake Bay and have raised, tagged and released monarch butterflies this school year. More information about Crestwood Elementary can be found on their Web site at http://www.chesterfield.k12.va.us/Schools/Crestwood_ES. Applications for this year's recognition are available at www.dgif.state.va.us or at www.vanaturally.com.

As he was heading down the interstate, a lady in another vehicle hit a deer on the road.

"What luck," thought the biologist as he stopped to assist.

Fortunately, he was able to remove the deer remains and help the driver quickly. He then proceeded on his way to finally meet his partner. After all that happened the biologist was only 30 minutes late for his appointment. □

Nature's Image 2003 Photography Workshops

Looking for that "picture perfect" way to learn more about the exciting field of outdoor photography? Then make plans to join outdoor and wildlife photographers Bill and Linda Lane for the ninth season of their popular Nature's Image Photography Field Workshops.

No matter what your age or skill level, this is an excellent opportunity to expand your knowledge of photography, and have a chance to spend some quality time in the outdoors. Group sizes are kept small to allow for lots of one-on-one instruction, with many of the workshop activities conducted in the field. The Lanes are also known for offering participants a comfortable atmosphere and great home cooked meals, which help foster the exchange of ideas, questions and camaraderie among all those who participate. Most importantly, they prove that it's not the equipment that makes the picture, but the person behind the lens.

Workshops will cover the art of design, composition, working with natural light, and experimenting with creative uses of equipment, such as filters, diffusers, reflectors, and a variety of tripods. Lighting, color, close-up macro photography, along with learning how to make your camera work for you will be featured. The goal of each workshop is to make photography easy, fun, and gratifying, while taking you to your next level of learning.

This year's workshops will be held throughout Virginia, West Virginia, and Tennessee. Locations include Tangier and Smith Island, the Northern Neck along the Potomac River, and False Cape State Park. For the mountain lover there are some really special out-of-the-way locations deep in the heart of the Southwest Blue Ridge Highlands, which even includes a trip to Clinch Mountain Wildlife Management Area.

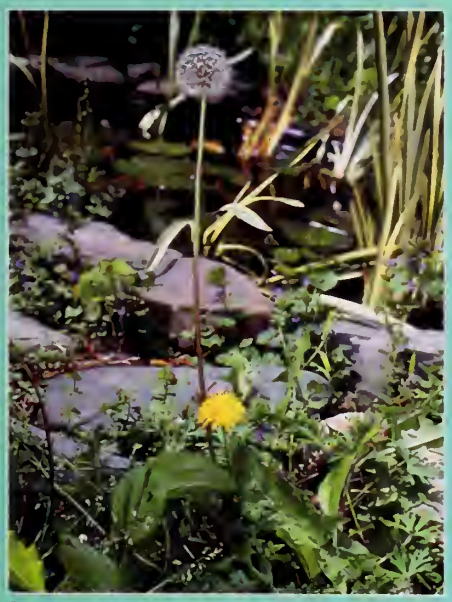
For the dates and locations for this years Nature's Image Photography Field Workshops call or fax the Lanes at (804) 883-7740 or check their Web site at: www.lanephotoworkshops.com. □

Wild Backyard

story and photos by Marlene A. Condon

Beauty of a Dandelion

One of the earliest plants to bloom in spring is the common dandelion *(Taraxacum officinale)*. It is probably the most recognizable flower in the United States, especially to children who are often taught to make a wish before attempting to blow apart the perfect sphere of seeds that forms at the top of the stem. Although many people think of this perennial as a lawn weed that is uninvited and unwanted, its bright, cheery, yellow flowers can be a welcome sight, especially after a cold, dreary winter.



The yellow flower and seeds of a dandelion.

The first sign of a common dandelion are irregularly toothed leaves radiating from a central point at ground level (a basal rosette). Shortly thereafter, a bud containing 100 or more tiny flowers (called florets) rise from the center on a hollow stalk, opening into a yellow bloom up to 1½ inches across. After pollination by many different kinds of insects, a "blowball" of parachuted seeds develops that is perfectly adapted to dissemination by the wind—or children!

Dandelion flowers are an extremely valuable food source for the first insects to emerge in the spring. Although these plants were brought here from Europe, many insects make use of them, content to find nectar at a time when few wild or cultivated plants (those grown and tended to by people) are blooming. Other animals, such as rabbits, graze upon the fresh green leaves.

Top: Bright yellow dandelions in early spring can bring a feeling of cheer to winter-weary humans and desperately needed food (nectar) for emerging insects. Above: A close up view of dandelions seed heads reveal numerous seeds attached to parachutes to sail upon the wind.

Dandelions have a defensive strategy that helps them to survive. Find one located in a spot where it will get mowed several times throughout the growing season, and observe what happens following each mowing. Since the "goal" of all plants is to reproduce, the common dandelion will keep sending up a flower stalk that, with luck, will exist long enough for its flower to produce seeds for another generation. If the flower stalk gets cut before it has set seed, the next flower stalk will be shorter. This strategy makes it less conspicuous to grazing animals—and lawn mowers! Eventually a flower head will come up that is completely stalkless, level with the ground and far less vulnerable to decapitation. This is a wonderful demonstration of one of the tactics used by plants for surviving the many hazards of life. ☐

A field full of dandelions gone to seed can fool viewers into thinking they are looking at a field of white flowers.

RECIPES

by Joan Cone

Cooking Wild Turkey

Cooking wild turkey is different. To begin with, there is no fat on wild turkeys. This means they must be kept moist during the cooking process. Second, wild turkey bodies are longer and less chunky than their domestic relatives. This reduces cooking time. Third, if you enjoy turkey dark meat, the legs are mostly too tough for eating. Thigh meat is not as tender as on a store-bought turkey and may need additional cooking in a pressure cooker or crockpot.

Using a Reynolds Turkey Size Oven Bag or covering the bird with heavy duty aluminum foil will keep your turkey moist. Cooking time probably will be less than in the oven bag or foil directions. Use an instant meat thermometer and check at frequent intervals until it registers 180°F.

Menu

Wild Turkey In Bag
Sherried Sweet Potatoes
Saucy Asparagus
Chocolate Raspberry Cheesecake

Wild Turkey in Bag

1 Reynolds Oven Bag Turkey Size (19 x 23 1/2-inches)
1 tablespoon flour
2 stalks celery, sliced
1 medium onion, sliced
Vegetable oil
Salt, pepper or other seasonings
2 cups apple cider
1 12-pound or larger wild turkey, thawed if frozen

Preheat oven to 350° F. Shake flour in oven bag and place in a roasting pan at least 2 inches deep. Add vegetables to bag. Rinse turkey and pat dry. Brush turkey with oil and sprinkle with seasonings. Place turkey in oven bag on top of vegetables. Pour cider into bag. Close bag with nylon tie and cut six ½-inch slits in top. When checking meat temperature, insert instant meat thermometer through slit in bag into thickest part of inner thigh, not touching bone. Bake, using oven bag cooking times as a guide, until meat thermometer reaches 180° F. Strain juice from bag and discard celery and onion. Season liquid to taste and thicken gravy with equal amounts of cornstarch and water.

Sherried Sweet Potatoes

8 medium sweet potatoes, cooked
½ cup brown sugar
2 tablespoons butter or margarine
Salt to taste
¼ teaspoon paprika
½ cup cream sherry

Peel and slice potatoes and arrange in a large, shallow, greased baking dish. Sprinkle with brown sugar and dot with butter. Add seasonings and sherry. Bake in a 350° F. preheated oven for about 30 minutes. Makes 6 servings.

Saucy Asparagus

1 can (10 ¾ ounces) cream of asparagus soup
2 tablespoons milk
1½ pounds fresh asparagus spears, trimmed and cut into 1-inch pieces

In a 2-quart saucepan over medium heat, combine soup and milk. Heat to boiling, stirring often. Add asparagus. Cover and cook over low heat for 10 minutes or until asparagus are tender, stirring occasionally. Serve with grated Parmesan cheese if desired. Makes 6 servings.

Chocolate Raspberry Cheesecake

6 ounces cream cheese, softened
1 can (14 ounces) sweetened condensed milk
1 egg
3 tablespoons fresh lemon juice
1 teaspoon vanilla
1 cup fresh or frozen raspberries
1 (6 ounces) ready-made graham cracker pie crust
2 ounces semisweet chocolate
¼ cup whipping cream

Heat oven to 350° F. With mixer, beat cream cheese until fluffy. Gradually beat in sweetened condensed milk until smooth. Add egg, lemon juice and vanilla; mix well. Thaw raspberries if frozen. Press raspberries firmly into bottom of crust. Slowly pour cheese mixture over fruit. Bake 30 to 35 minutes or until center is almost set. Cool.

Chocolate Glaze: In a small saucepan, over low heat, melt semisweet chocolate with whipping cream. Stir until thickened and smooth. Remove from heat. Glaze over cheesecake; chill. Makes 8 servings. ☐

VIRGINIA AGRICULTURE
Virginia's Finest

Naturally Wild

story and illustration
by Spike Knuth

Chipping Sparrow
Spizella passerina

As I turned down towards the boat ramp to North Landing River, I flushed a "spray" of small birds from under some holly trees. At first I thought they were juncos, but I didn't see any flashing white tail feathers. It was mid-November and I was exploring Munden Point Park in Virginia Beach. On my way back out the birds were back, but this time I stopped to check them out with binoculars. To my surprise, they turned out to be a flock of chipping sparrows, apparently feeding on grass and weed seeds, and possibly fallen holly berries.

Measuring 5 to 5¾ inches in length, the chipping sparrow is one of our smallest sparrows. It is slim and rather long-tailed and is best identified by its chestnut-colored crown, broad white line over its eye, and a black stripe running through the eye. It has a brown back streaked with black and grayish under parts. Chipping sparrows are birds of grassy openings in woodlands, the edges of day lighted roads, pine plantations, parks, orchards, farms and open residential areas.

While most chipping sparrows probably migrate to warmer climates, many hardier members of the species inhabit coastal areas as far north as Delaware, often in the company of field sparrows, yellow-rumped warblers, and other small birds. Chipping sparrows begin moving north in March, and by mid-April you'll start hearing their somewhat plain, rapid, trill, or "chipping" notes. The males sing from elevated perches as the females begin nest building, egg laying and brooding. "Chippys" nest in small trees and shrubs, especially small coniferous trees, as well as dense vines and small trees. The nest is a neat cup-shaped affair constructed of grasses and lined with finer grasses and animal hair. About four bluish-green eggs, speckled with dark brown, are laid. Incubation takes about 12 days. Both parents feed the young, but some reports tell of the males giving food to the female who passes it on to the young. The young are fledged in another 12-14 days. Juveniles lack the rufous crown and have streaked rumps and under parts.

Chipping sparrows eat insects and insect larvae in spring and summer, then turn to weed and grass seeds, and some wild fruit in fall and winter. Some of their other names include "chippy," hair-bird, and hair-sparrow because of its habit of using animal hair in their nest. Look for them in grassy fields that have groups of small coniferous trees, or even a single tree in the open. □

Virginia

2003 Annual Photography Contest

This year's photography contest is going to be bigger than ever. Special prizes donated by Eastman Kodak, Richmond Camera and *Virginia Wildlife* will be given to contest winners. And, one very talented contest winner will have their photograph featured on the cover of *Virginia Wildlife* magazine as the Grand Prize.

First place winners in each category will receive prizes donated by the Eastman Kodak Company; second place winners will receive prizes from Richmond Camera; third place winners will receive an official *Virginia Wildlife* cap, and honorable mention winners will receive a pocket photography guide book. On top of that, winners will have their photographs published in the first ever *Special Virginia Wildlife Outdoor Photography* issue, premiering March 2004.

For additional information and contest rules send a self addressed, stamped envelope with 37 cents postage to: *Virginia Wildlife* Photography Contest, 4010 West Broad Street, P.O. Box 11104, Richmond, VA 23230-1104 or visit our Web site at www.dgif.state.va.us. **Deadline for contest submissions is December 1, 2003**. Good luck, good shooting, and have fun!

Virginia Wildlife Magazine subscription calls only 1-800-710-9369
Twelve issues for $12.95!
All other calls to (804) 367-1000
Visit our Web site at www.dgif.state.va.us